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# The Transaction Costs Perspective on Costs And Benefits of Government Regulation: Extending The Standard Cost Model

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# **The transaction costs perspective on costs and benefits of government regulation: extending the standard cost model**

Frank A.G. den Butter, Marc de Graaf and André Nijsen<sup>1 2</sup>

## **Abstract**

This paper explores the feasibility to extend the Standard Cost Model (SCM) for calculating the costs of government regulation by taking all transaction costs into account which stem from the principal/agent relationship between regulatory authorities and economic entities. From that perspective these transaction costs do not only relate to the bonding costs of the regulated entities – part of these costs can be regarded as the administrative burden of regulation for the private sector – but also to the monitoring costs of the regulators and to the residual loss. These latter costs can be regarded as cost to society due to e.g. miscommunication on the aims of regulation, and are, of course, hard to quantify. A cost calculation using the (extended) SCM presumes that the regulatory rules are given and set autonomously by the regulatory authorities. However, it may be welfare enhancing if regulations are fashioned in such a way that net benefits are optimized. From that perspective the paper looks at the possibility to select optimal regulation by means of a cost benefit analysis. A major argument is that the benefits of regulatory measures, e.g. to internalize external effects, comprise avoiding societal costs associated with no or less regulation.

Keywords: bonding costs, compliance costs, monitoring costs, welfare effects of government regulation

JEL-codes: D73, D78, H11, H83

# **The transaction costs perspective on costs and benefits of government regulation: extending the standard cost model**

## **1. Introduction**

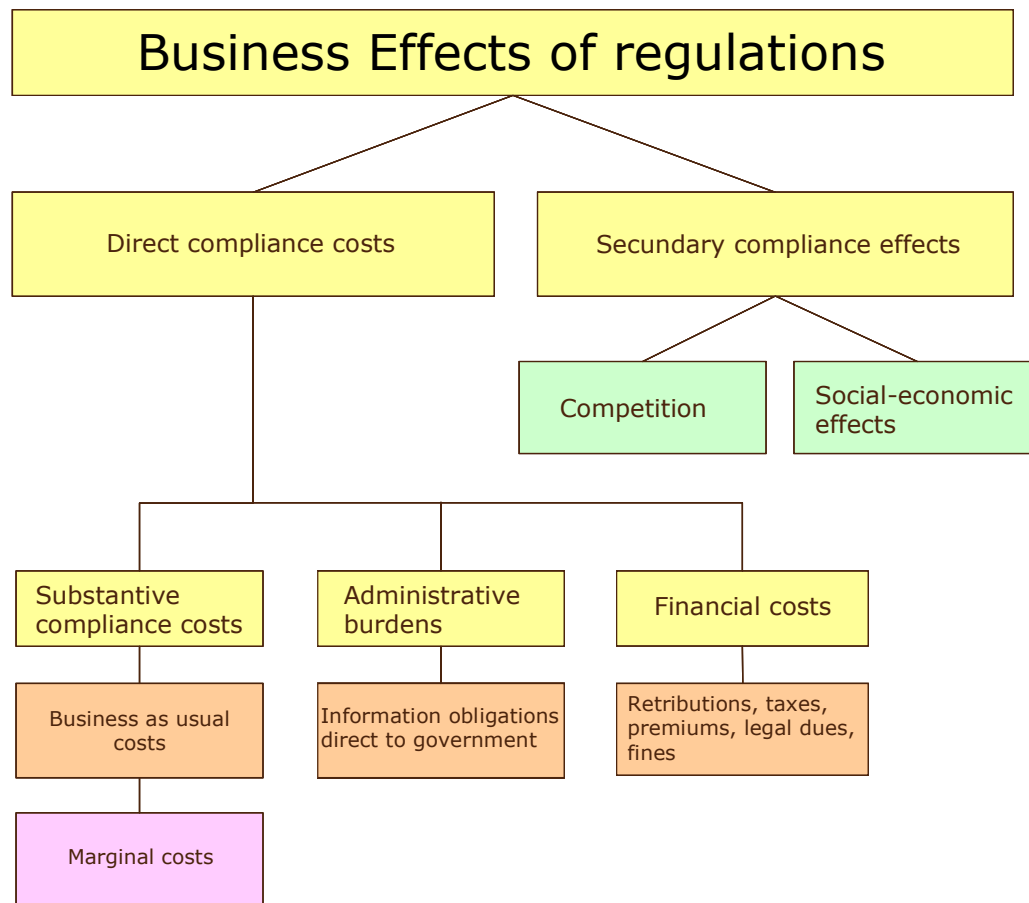
In many OECD countries the costs of government regulation is a topic of concern. The complaint is that government regulation brings too high compliance costs for the business sector and is often inefficient. These costs hamper economic activity. Part of these compliance costs is the administrative burden, the costs of the business sector to inform the government sector. Tang and Verweij (2004) show that a decrease of the administrative burden of 25% leads to an increase of 1.7% in real GDP of the European Union. A reason for concern also is that a growing part of the administrative burden is the direct result of European legislation.

The size of the administrative burden from existing government regulation can be calculated by the Standard Cost Model (SCM) (Nijsen and Vellinga 2002, Nijsen 2003, Nijsen 2008). This is an activity based accounting model that aggregates the costs for businesses with respect to all direct costs of complying with legal information obligations. The focus of the SCM is on providing indicators for the administrative burden of government regulation at the macro level (costs for all laws) and at the micro level (costs for one law), which is a useful device in policy discussions on the size of that burden (macro level) and on reduction policies (micro level).

However, *information obligations* contribute to the achievement of the related public goals in an indirect way only. The costs of businesses involved in providing the required information in order to facilitate monitoring by the government are just part of total business costs of government regulation. In order to comply with *substantive* and *financial obligations* by businesses or civilians in a direct way, e.g. to take care of safe labour circumstances or minimizing CO<sub>2</sub> pollution, according to the legal standards or paying the due income tax, further costs have to be made. These costs relate to the direct achievement of the public goals themselves. Aggregation of the costs over all relevant

information obligations, financial obligations and substantive obligations yields an estimate of total direct compliance costs of government regulation for the regulated part of the business sector, the so called norm addressees. Besides direct compliance costs of the regulated businesses or norm addressees, there also are secondary or indirect compliance effects for the economy as a whole. See Figure 1.

**Figure 1: Business Effects of regulations**



This paper discusses the feasibility of the measurement of these costs of government regulation from the transaction cost perspective. It appears that government regulation brings about a number of transaction costs, which are deliberately not included in the calculation of the original version of the SCM, as they are not regarded direct information costs of government regulation, and therefore are not part of what is commonly considered as administrative burden.

The first aim of the paper is to extend the SCM to include all transaction costs of government regulation, viz. substantive compliance costs, financial costs of businesses, secondary compliance effects for the whole business sector (see Figure 1), and enforcing costs of related governmental institutions. The SCM calculations of the costs associated with government regulation take the existing government regulation as given. It is to be noted that the SCM can be used as tool to reduce the administrative burden as much as possible without questioning the related public goals. A major feature of this analysis is that the transaction costs of government regulation are supposed to stem from the principal/agent relation where the regulator is the principal, and the economic entity or the regulated business which should comply with the regulation, is the agent.

However, the transaction costs perspective also allows considering government regulation from the viewpoint of economic welfare. In general, government regulation purports to enhance economic welfare by internalizing negative externalities, e.g. in the case of environmental regulation or prescriptions on working conditions. Here the concern is about the design of the regulation which should be optimal in the sense that the welfare gains of internalizing the externalities should be higher than the costs of regulation. Therefore, the second aim of the paper is to develop a methodology which considers costs and benefits of government regulation. In this methodology the costs are to be calculated by the extended SCM for various alternative ways of regulation.

The content of the remainder of the paper is as follows. Section 2 gives a brief description of the Standard Cost Model and explains its methodology by a numerical example. Section 3 focuses on the different types of transaction costs which can be distinguished in the principal/agent model, compared to the types of compliance costs which stem from the SCM. It also shows how the SCM can be extended by including these transaction costs, which are often 'soft' transaction costs and difficult to quantify. Section 4 gives the cost/benefit perspective on government regulation. Finally, section 5 concludes.

## **2. Description of the Standard Cost Model**

The Standard Cost Model measures the administrative burden of government regulation for businesses. A major reason for the development of the model is that from 1994

onwards the Dutch government is aiming at a considerable reduction of these informational requirements businesses have to meet. The model is to provide a quantitative assessment of the total administrative burden of government regulation so that it can be tracked how successful the reduction of the burden is. A main feature of the SCM is that the model starts with measuring the administrative burdens of every single information obligation (IO). The availability of this detailed information allows for effective reduction policies. EIM developed a first version of the model which is called Mistral® from 1992-1994 (Nijssen 2003). The Standard Cost Model (SCM) is a follow up to this first version and is now used by many EU-Member States and OECD-countries (IPAL 2003, International SCM Network 2004 and 2005b, OECD 2003, Boenheim et.al., 2006, European Commission, 2007) as standard methodology to calculate the administrative burden.

Administrative burdens are all direct costs that arise from information obligations (IOs) stemming from government regulation. These are obligations to prepare information and to hand it over to a public authority. An information obligation consists of data requirements that have to be reported. Examples of IOs of businesses are data requirements related to applying for permits and licences, or registering, or making tax declarations, or reporting accidents, hiring, firing and sickness of employees, or cooperating with inspections, etc. IOs are enforced legally and therefore they cannot be declined. As opposed to Mistral®, in most countries that implement the SCM, the administrative burden includes the costs of handing information over to third parties, so called third party disclosures. Third parties are consumers, clients, employees or other firms. Examples of third party disclosures are labeling of products, price tags or financial and medical leaflets.<sup>3</sup>

## **2.1 The Standard Cost Model**

The Standard Cost Model measures administrative burdens by estimating the costs of complying with the information obligations, assuming a normally efficient way of compliance. This has two implications. Firstly, SCM does not purport to calculate actual costs that businesses make in order to meet the informational requirements of government regulation. If compliance to government regulation and/or collecting data on compliance is inefficient, this inefficiency is not regarded being part of the



administrative burden. The argument is that it is not the responsibility of the government whether businesses comply with in an efficient way or not. Competition will force businesses to comply with in an efficient way. Secondly, the main stream SCM implementations only reckon with costs for businesses which are directly related to the information compliance and reporting issues of government regulation. So the main stream implementations of the SCM do not aim at estimating:

- the substantive compliance costs of regulated businesses
- the financial compliance costs of regulated businesses
- the secondary compliance effects for the non-regulated businesses
- enforcing costs for the government<sup>4</sup>
- and they also do not include the benefits that government regulation brings to society, inclusive the regulated businesses

The SCM starts with calculating the costs of providing information with respect to one data requirement, the so called information obligation (IO). Here the following simplified accounting rule is applied:

$$Price = Tariff * Time$$

The parameter ‘Tariff’ can be calculated in two different ways. One way is using an internal tariff, in the case that the internal employees handle the IO. This parameter is set equal to the costs of a single hour of work of the internal employee. The other way is to use an external tariff, in the case of outsourcing the IO. The tariff is the commercial cost of a single hour of work of the external employee.

The parameter ‘Time’ is the actual number of hours which a business needs in order to comply with the IO in a normally efficient way.

The ‘Price’ is the product of the Tariff and the Time. It gives the costs of a single IO in one business which is dealt with only once. Therefore the second step in the SCM is to aggregate these costs for the number of times that piece of information has to be delivered by the relevant part of the business sector, the regulated businesses or the norm addressees. There are two situations to reckon with when calculating the number

of times an IO has to be performed in one year. Firstly, in case of calendar driven IOs and secondly in case of event driven IOs.

In formula:

*Quantity 1 (calendar driven IOs) = Number of regulated businesses \* Periodicity in one year*

*Quantity 2 (event driven IOs) = Number of events in one year for all regulated businesses<sup>5</sup>*

The 'Number of regulated businesses' is the number of the norm addressees, that need to comply with the IO. The 'Periodicity' is the number of times that a norm addressee needs to deliver the information within a year, e.g. every day, every month, every quarter, once per year or once every five years. An example of a periodicity dependent IO is the VAT declaration or applying for a license. An example of an event driven IO is the reporting of labour accidents or sickness of employees. In this case, it is not necessary to know the average number of events per norm addressee. It will be sufficient to know the total number of events for all the regulated businesses. The total administrative burden for such a single IO is now measured as

*Administrative Burden = Price \* Quantity*

so that

*Administrative Burden Calendar driven IO = Price \* Quantity 1 = (Tariff \* Time) \* (Number of regulated businesses \* Periodicity in one year)*

*Administrative Burden Event driven IO = Price \* Quantity 2 = (Tariff \* Time) \* (Number of events in one year for all regulated businesses)*

Obviously, an impression of the total administrative burden of government regulation can be obtained by adding up the administrative burdens of all IOs. In this way, the methodology also provides insight in the relative sizes of the burdens with respect to various IOs and related regulations. It shows which IOs and regulations bring about a heavy burden and are the first to be considered for a change.

## **2.2 Valuing the SCM parameters**

How are the parameters of the SCM determined in practice? And what does it imply for the scope of the estimate of the aggregate burden? The parameter 'Tariff' is measured in

an indirect way by interviewing businesses. It is asked which kinds of employees are most likely required to perform the activities in order to comply with the IO. Then, in calculations the tariffs for these employees are derived from the National Statistics for wages and labour costs according to function levels.

‘Time’ can be estimated in two ways. It can be measured also by interviewing businesses or experts, and alternatively it can be measured by using the ‘stopwatch-method’. The stopwatch-method is the most time consuming and costly of the two estimation methods. Therefore the estimate of ‘Time’ is usually obtained by interviewing businesses or experts.

The parameters ‘Number of businesses’, ‘Periodicity’ and ‘Number of events’ can be measured (i) by reading the law or regulation; (ii) by consultation of registers kept by government bodies or statistics, or (iii) by a survey.

### **2.3 An example**

In order to illustrate how the SCM methodology works in practice this subsection summarizes the measurement of the administrative burden concerning the EU directive 96/35/EG for The Netherlands. The costs of this directive are assessed by the international SCM network (2005b) based on the SCM. The directive sets requirements for the qualification of safety advisors who are responsible for preventing risks involved in transportation of hazardous goods. Any company that is transporting hazardous goods is forced by law to have a safety advisor, who is required to have a certificate. This safety advisor can be an external safety advisor as well. It is calculated that when the safety advisor is an internal advisor, the advisor will spend 30% of his time on the safety obligation and 70% of his time on his other work within the business. Three activities of these safety advisors bring about costs. It will be demonstrated that not all these costs are considered being administrative burdens according to the SCM. The first costs relate to keeping the certificate (i): the certificate is valid for 5 years and after this period the safety advisor has to follow a new course that lasts for 2 days and costs 450 euro. Keeping the certificate is not an information obligation but a substantive obligation. The distinction between information obligations and substantive obligations has been accentuated more recently, because of the desired extension of the SCM to

substantive obligations. The other two activities are reporting accidents (ii) and making annual reports (iii). The costs of activities (ii) and (iii) belong to the administrative burden, being the costs to comply with information obligations (IOs).

Table 1 shows how the costs of these two activities translate to the parameters of the SCM methodology. Adding these costs for all businesses who should comply with the regulation gives the total administrative burden of this regulation in the Netherlands, which in this case amounts to 7.1 million Euros. We note that in this case the total number of reported accidents within one year was not available. Therefore, in variance with the SCM methodology, here the average time per year for one business necessary to report all the accidents in one year, is presented in the table and not the time necessary to report just one accident. In doing so, there is a serious risk of substantial error margins and no control of the desired focus on efficient compliance. Yet, as mentioned before, the direct costs of prevention of accidents to happen, the so called substantive compliance costs are not included in this SCM calculation of the administrative burden.

## **2.4 A further perspective**

The above description of the SMC shows that application of the model, up to now, does not aim to provide a welfare perspective on government regulation. However, such welfare perspective could be warranted as the ultimate purpose of regulation is to enhance welfare, e.g. by repairing market failure. That is why the remainder of this paper gives some suggestions how the SCM methodology – which is very flexible – could be extended to include some of these broader welfare aspects of government regulation. The upshot is that a simple reduction of the administrative burden, e.g. through less strict regulation or deregulation, does not necessarily imply a welfare gain for society. A good example of this is the global financial crisis of 2007/2008. This crisis is doubtless partly due to a lack of effective governmental supervision on the financial markets. To supervise financial markets, the supervisor needs information from the regulated financial businesses. The costs for the financial sector to comply with these information obligations are administrative burdens. Moreover, regulation also brings about costs for the financial industry as the regulated financial businesses are restricted in making decisions which are most profitable from the viewpoint of

merely their own interest. However, deregulation may enhance the risk of costly default. The case of the credit crisis shows that the welfare costs of such default can be rocketing high. Therefore, one of the boundary conditions of every policy to reduce administrative burdens should be the safeguarding of the related public goals. The transaction costs perspective of the next sections provides the link between the mere accounting methodology of the SCM to calculate costs associated with implementation of government regulation and the broader view on government regulation as a means to enhance welfare.

**Table 1: Administrative burden requirements safety advisor of the EU regulation, directive 96/35/EG, according to the Standard Cost Model methodology: The Netherlands, 2005**

IO	Periodicity/event	Tariff (internal advisors)	Time (internal advisors)	Price for IO (internal costs)	Quantity	Administrative burden (internal costs)
<b>Reporting accidents</b>	Event driven: accident	68 euro	32 hours (average per business per year)	2178 euro	2163 domestic businesses	4.7 million euro
<b>Making annual report</b>	Once a year	68 euro	16 hours	1089 euro	2163 domestic businesses	2.4 million euro
<b>All IOs</b>						7.1 million euro

Source: International SCM network, 2005a; adapted for this paper

### **3. The transaction costs perspective**

The administrative burden of government regulation can be considered as part of the transaction costs that the regulation brings about. However, these transaction costs cover a much broader range of costs of government regulation than the costs for businesses to comply with information obligations of the regulations. Transaction costs of government regulation cover all direct and indirect costs that are to be made by

society when it is decided to restrict or regulate economic activities of businesses. Often such regulation is formed in the political process and aims at repairing market failures by internalizing externalities. Therefore, as mentioned before, from a societal point of view regulation is supposed to enhance welfare. However, the discussion in this section on the transaction costs of government regulation is confined to a classification of the various types of costs that come about, given the regulation. This classification uses the observation that the relationship between the government and the business sector in case of regulatory requirements can be seen as a principal/agent relationship, where the regulatory authority is the principal, and the businesses which have to comply with the regulations, are the agents. The classification of transaction costs that follows from this perspective is instrumental to see how the SCM can be extended to include all direct and indirect costs of government regulation.

### **3.1 Transaction costs economics**

In order to do so, first, a short review is given on transaction costs economics, and on how transaction costs affect the working of the economy. Ronald Coase (1937) introduced the concept of transaction costs by describing these costs as ‘the costs of using the price mechanism in the market’. This concept was elaborated by Oliver Williamson, who defined transaction costs as the costs of running the economic system (see e.g. Williamson 1975; following Arrow, 1969). Nowadays the term transaction costs is used to describe all the costs incurred in setting up, making, and maintaining a transaction. Cheung (1987) describes transaction costs as all costs that are not conceivable in the so called ‘Robinson-Crusoe economy’. North and Wallis (1994) distinguish between transformation costs and transaction costs. Transformation costs are incurred when the physical attributes of a good or service are changed. Transaction costs, on the other hand, are incurred when the property rights on a good or service change. Therefore transaction costs defy the existence of a frictionless economy: the neoclassical paradigm is only valid when there are zero transaction costs (North, 1991). Positive transaction costs influence allocation decisions by reducing the profitability of transactions. Some transactions which would otherwise be utility increasing may not occur when transaction costs exist. This latter way of describing transaction costs provides a link with the transaction costs of government regulation. Clearly the costs

that are made, both by the government as by the business sector, can be seen as transaction costs, as they are the result of restrictions to the working of the market mechanism and do not relate to production costs. There is one exemption to this. In case substantive obligations force businesses to adapt their products according to certain norm or standards e.g. related to safety, the costs of these adaptations should be regarded as bonding costs. In section 3.2, we will argue that probably most costs of these types of adaptation will be internal bonding costs. Internal bonding costs are costs that would be made anyhow by businesses from their own commercial perspectives. If so, they should be subtracted from transaction costs again. Transaction costs also cause a distortion of optimal allocation – that is why it is important to keep transaction costs as low as possible – and can be seen as the consequence of the coordination which is needed to increase regulation effectiveness.

For a proper classification of transaction costs of government regulation it is useful to distinguish between ‘hard’ or direct transaction costs and ‘soft’ or indirect transaction costs (see e.g. WRR, 2003). From the general perspective of trade transactions, hard transaction costs relate to costs that are readily perceptible and quantifiable, such as transport charges, import levies and customs authorities’ tariffs. Soft transaction costs are much more difficult to observe and measure. One can think of all kinds of costs of making and checking contracts, information costs, costs because of cultural differences and communication failures, tacit knowledge on legal procedures, formation of trust and reputation, network building, costs associated with risks and with rules and regulation in order to reduce risks, security requirements etc.

This distinction between hard and soft transaction costs is of particular relevance for costs of government regulation, as the hard transaction costs (and benefits) mainly relate to the direct financial costs (and benefits like subsidies) and the soft transactions costs to the administrative burden (information compliance costs) and substantive compliance costs (and benefits) of regulations (See also Figure 1). Therefore, neither these hard transaction costs and the substantive compliance costs, nor the benefits are measured by the present main stream of the SCM. However, recently a new module of the SCM has been developed, called SIROCCO (Scanning InstRument Other Compliance COsts).

SIROCCO aims at measuring the direct costs of complying with substantive obligations. See also section 3.3.

### **3.2 The principal/agent perspective on transaction costs**

In the principal/agent (agency) relation in the implementation of government regulation three types of costs can be distinguished which are all part of the total transaction costs of this regulation.

The first type of costs is the costs for the government itself. These are, in the principal/agent terminology, the *monitoring costs*. Parts of these are administration or enforcing costs, but there are also additional costs which come with the design of the regulatory measures. Therefore, the implementation or enforcing costs for the government are generally considerably higher than the amounts which appear in the budget (payment of subsidies, receipts of levies). The additional costs include salaries of the civil servants engaged in policy preparation, implementation of regulatory measures and other monitoring activities. Costs also relate to subsidies which are not granted, and allowances for tax exemptions. Whereas the costs that appear explicitly in the budget can be seen as ‘hard’ transaction costs, the other costs are more difficult to quantify and can be seen as ‘soft’ transaction costs. They may, by the way, also appear in the budget, but implicitly.

The second type of costs is the *bonding costs* for the citizens and businesses. These consist mainly of compliance costs. Here all compliance costs of the norm addressees as a consequence of the government regulation should be taken into account. They are the direct financial costs such as levies, but also capital investments and all other remaining costs needed to meet the obligations of laws and legislation. These compliance costs also include the costs of informing the government (sheer bonding costs), which can be regarded as the administrative burdens in a strict sense and which are the focus of the SCM methodology. The policy debate on diminishing the administrative burden of government regulation usually focuses on these costs only. Calculating total compliance costs can, however, be rather complicated. For instance, when firms are to meet the requirements of environment legislation or of safety regulations, they have to make all kinds of investments in the production processes and management procedures of the



firm. These costs can only be partly counted as transaction costs of government policy, as some of these investment costs would be made anyhow from the own commercial perspective of the firm. So there is a need to separate these kinds of compliance costs in *external compliance costs*<sup>6</sup>, which are added to the transaction costs, and *internal compliance costs*<sup>7</sup>, which are not transaction costs originating from government regulation. Of course such a split between external and internal compliance costs has, to some extent, an arbitrary character and requires a good insight into the management of the firm. Boog and Nijssen (2007, see also Nijssen 2008) provide an example of how to calculate these various types of compliance costs for specific cases within the SCM framework.

The third type of costs is much more difficult to quantify, namely the *societal costs of the residual loss*. These arise because the reaction of the agents to government regulation will never be in complete agreement with the objectives of the government. The difference is the residual loss. Principal/agents contracts should be designed in such a way that the total agency costs (monitoring costs, bonding costs and residual loss) are minimized. It implies that agency contracts should not focus on reducing only one particular type of costs, but there should be a good balance between all three types of costs.

The above discussion shows that the principal/agent theory provides an adequate framework for a taxonomy and further categorisation of the transaction costs of implementing government regulation. Total transaction costs of government regulation consist of the *netted* sum of the three components. The expression ‘netted sum’ indicates that e.g. subsidies granted by the government to private agents are counted as costs by the government, but should be subtracted from the costs incurred by the private agents for obtaining the subsidy and the bonding costs made by these agents to demonstrate to the government that the subsidy is well spent. The opposite holds when government regulation aims at internalizing negative externalities and penalties are to be paid when restrictions to e.g. pollution or safety regulation are not met. In that case the penalties are part of the transaction costs of the private agents, but should be subtracted from the costs the government makes in order to monitor the regulation and to implement it in an effective way.

### **3.3 Extension of the Standard Cost Model**

The question now is how this classification of transaction costs can be used for an extension of the SCM so that all costs of government regulation are taken into account. Table 2 demonstrates how the different concepts of the transaction costs perspective and the SCM relate to each other.

**Table 2: Concepts of transaction costs perspective and SCM compared**

<b>Perspective</b>	<b>B. Transaction Costs</b>			
<b>A. Standard Cost Model</b>				
	1. Monitoring Costs: <i>government</i>	2. Bonding Costs: <i>regulated businesses</i> ; internal costs	3. Bonding Costs: <i>regulated businesses</i> ; external costs	4. Residual Losses: <i>society</i>
1. Enforcing Costs: <i>government</i>	A1 part of B1			
2. Informational Compliance Costs: <i>regulated businesses</i>			A2 part of B3	
3. Financial Compliance Costs: <i>regulated businesses</i>			A3 part of B3	
4. Substantive Compliance Costs: <i>regulated businesses/business as usual costs</i>		A4 part of B2		
5. Substantive Compliance Costs: <i>regulated businesses/marginal costs</i>			A5 part of B3	
6. Costs of inefficient compliance: <i>regulated businesses</i>				A6 part of B4
7. Secondary Compliance Effects: <i>all businesses</i>				A7 part of B4

Green = object of main stream SCM/MISTRAL®

Yellow = object of SCM/SIROCCO

Grey = object of SCM/MISTRAL® on ad hoc base only

Orange = not object of SCM

The distinction of the costs in the principal/agent relation can be helpful to come to a list of additional cost categories with which the SCM could be extended. From table 2 it appears that the transaction costs perspective and the main stream SCM only have the informational compliance costs (A2: administrative burden = green) in common. All the other components of the transaction costs theory are either:

- included in SCM/SIROCCO like the substantive compliance costs (A4 and A5, yellow), or in an ad hoc implementation of the SCM like the enforcing costs of government (A1, grey)

- or, not included at all in any of the variants of the SCM like the financial compliance costs (A3), the cost of inefficient compliance (A6) and all secondary compliance effects (A7) (orange)

To resume, there is evidence that the SCM is equipped to integrate the substantive compliance costs of the regulated businesses or norm addressees, and the enforcing costs of the government. The SCM allows for subtracting the internal bonding costs or 'business as usual costs' from the transaction costs. Related to the enforcing costs of the government, the question remains what types of costs should be included in the SCM: the monitoring costs in strict sense only, which are related directly to the informational compliance costs of the regulated businesses? Or should additional costs of the government related to the design of the regulatory measures, the costs of not granted subsidies and allowances for tax exemptions, and the costs of the payment of subsidies by the government also be included?

The most challenging question is: how to extend the main stream SCM with financial compliance costs, the costs of inefficient compliance and all secondary compliance effects? The first two cost components – financial compliance costs and the costs of inefficient compliance – are regulatory costs of the regulated businesses or norm addressees.

First, the inclusion of financial compliance costs of the regulated businesses in the SCM. This type of costs relates to the payment of taxes or premiums by the regulated businesses. The receipt of these payments is on the (national) budget. In principle, it will be possible to extend the SCM with the direct financial costs of the regulated businesses. However, the question remains, whether it will appear feasible to separate the taxes and premiums in the (national) budget paid by the specific group of regulated businesses or norm addressees out of the total amount of paid taxes and premiums.

An interesting case study which includes a specific type of financial compliance costs is the calculation by the Economic Institute for the Building Industry (EIB) in the Netherlands (Jansen and Vrolijk, 2008), of the compliance costs of specialized building contractors. The EIB calculation focuses on the 'Wet Ketenaansprakelijkheid (WKA) (Law on ultimate responsibility for payments of taxes and social security contributions)'. The WKA is a rule that makes the specialized building contractor

responsible for collecting the taxes and social security premiums that are to be paid for all employees who are working on a project. The reason is that specialized building contractors often use a number of subcontractors, which makes it difficult for the tax authorities to collect taxes separately from all of these subcontractors, specified per project. The EIB uses a methodology for calculating the compliance costs which is similar to the SCM model. However, the EIB pays special attention to the computation of the substantive compliance costs. These costs are separated into (i) costs caused by lost capital benefits, (ii) finance costs and (iii) costs for using a G-account. Costs caused by lost capital benefits come about because businesses are forced to use G-accounts. A G-account is a bank account that can only be used to make payments to the tax collector office or to the building contractor who has final responsibility for tax payments. The use of this G-account reduces the financial potential of building contractors, because the money that is blocked on the G-account cannot be used for other financial purposes. So the costs lost by capital benefits are the opportunity costs of not being able to use blocked money on the G-account for other purposes. In the measurement of the EIB these opportunity costs are included in the measurement of the finance costs which are the missed returns on the money blocked on the G-account. Here a sensitivity analysis is conducted with respect to the rate of return of these blocked money assets. This case study shows that the way financial compliance costs can be included in the SCM methodology depends very much on the specific institutional set-up of the regulatory measures.

The second problem to deal with in extending the SCM is the inclusion of the costs of inefficient compliance of the regulated businesses in the SCM. This appears to be a major problem that challenges one of the core principles of the SCM. A major reason for the success and applicability of the SCM is the assumption of compliance in a 'normally efficient way'. This assumption relates to the main goal of the SCM: taking away unnecessary administrative burden. Reducing administrative burden caused by inefficient compliance, is not the responsibility of the government. That's why this category of administrative burden is out of scope when implementing the SCM. In the beginning of this article, it was argued the main argument for integrating transaction costs theory and SCM is, optimizing net benefits for society by improving the process of law making. The new instrument – let's name it the SCM extended – will be an

instrument for public officers especially. For this reason, our advice will be not to extend the SCM with the costs of inefficient compliance. The same holds for the fact that the SCM does not consider businesses that spent time about how to circumvent the regulations or to show that the regulatory regime did not apply to them. Our advice will be not to include these types of business costs. Related to this is the issue of incomplete compliance with substantive obligations, especially category A5 in table 2. The main stream SCM reckons full compliance with information obligations, viz. all regulated businesses are supposed to comply with all IOs. In order to assess residual losses from the perspective of transaction costs theory, it might be advisable to extend the SCM with a module to reckon incomplete compliance especially related to substantive obligations. This would allow assessing residual losses in case the reactions of the regulated businesses (agents) do not fully meet the objectives of the government. This will be the case, if not all businesses but just a minor part of them are complying. The societal costs of the residual loss can only be estimated when the government's objectives are quantified as targets and when costs can be attributed to the extent that the result of government regulation differs from the target. These types of costs are hard to quantify.

Finally, the extension of the SCM with the secondary compliance effects for all businesses. If the direct costs and benefits for the regulated businesses or norm addressees are available, macro-economic models will allow calculating the secondary effects for the whole economy. So from a conceptual point of view this extension is not a problem. However, it may be hard to find and use an adequate macroeconomic model that is actually capable of calculating these secondary (or general equilibrium) effects.

Some methodological issues are still left to be discussed. Regarding the distinction hard versus soft transaction costs, the parameter Time in the SCM covers all soft transaction costs as far as it belongs to a normally efficient way of compliance. Basically, the SCM follows Sandford's 'lawyers' concept'. The lawyers' concept implies, administrative burden and substantive compliance cost are: "the cost which a reasonable man would incur" (Sandford et.al., 1989, pp.12). This implies that the SCM not just measures the time spent in order to comply with the information or substantive obligation as such, but also the other parts of soft transaction costs, such as time spent on discussions and

preparation of management decisions about how to comply with government regulation. The list of standard administrative activities available as one of the instrumental parts of the SCM allows for measuring time and costs for this part of soft transaction costs. In principle, the list of standard activities could be extended with all soft transaction costs which rise from the principal/agent relationship. Examples are the costs of making and checking contracts, the costs of communication failures or costs regarding tacit knowledge or reputation of civil servants and businesses' employees.<sup>8</sup>

The measurement of the transaction costs related to bonding in SCM is somewhat problematic. Since bonding costs consist of external (A5, table 2) and internal (A4, table 2) compliance costs, only external compliance costs should be included in order to measure the costs caused by government regulation. However internal (business as usual costs) and external (marginal or incremental costs) compliance costs are difficult to separate, but when they are both included in the calculation, it overestimates the total transaction costs (UK Government, 2008). Yet, the business as usual costs of financial obligations and IOs are zero to almost zero. No entrepreneur would pay or inform government if there was no legal requirement to do so. An important condition is a sharp distinction between information obligations and substantive obligations. Business as usual costs are very common when dealing with substantive obligations. We note that the measurement of substantive compliance costs like investments, inclusive the separation between business as usual and marginal costs, is subject of the latest module of Mistral®, named SIROCCO (Nijsen et.al., 2008).

Table 3 summarizes all types of hard and soft transaction costs of government regulation that can be distinguished from the perspective of the principal/agent relationship.

**Table 3: Hard and soft transaction costs in the principal/agent relationship**

	<b>Monitoring costs of government</b>	<b>Bonding costs of businesses</b>	<b>Societal costs of the residual loss of government, businesses, and civilians</b>
<b>Hard transaction costs</b>	Salaries of civil servants and subsidies	Payments of taxes or levies	Salaries paid in order to comply with government regulation while the government's objective is not being achieved
<b>Soft transaction costs</b>	Information costs, costs of making and checking contracts etc.	<ul style="list-style-type: none"> <li>-Costs of complying with information obligations</li> <li>- Marginal costs of complying with substantive obligations</li> <li>-Costs of losses in tacit knowledge, costs of making, checking and renewing contracts</li> <li>-Costs of communication failures, risks, or costs or gains in reputation</li> </ul>	Soft transaction costs of government policy resulting from the difference between government regulation and the government's targets

Just to give an impression about the problems and possibilities when the SCM should be extended to include all costs of table 3, we will discuss some topics.

First, the hard transaction costs as far it concerns the monitoring and bonding costs are rather easy to integrate in the SCM. These are part of the government's budgets. More difficult will be the assessment of the societal costs of the residual loss, viz. the salaries paid in order to comply with government regulation while the government's objective is not being achieved. Several questions occur. When and how do you know a government's objective is not being achieved? How do you find the degree of compliance by the regulated businesses and enforcement by the responsible government institution? Etcetera.



Second, soft transaction costs with respect to the monitoring costs of government can be estimated by calculating the time spent on information searches, making decisions based on information and the time spent on making and checking contracts. These costs relate to the interaction between government and businesses, such as regularly monitoring business behaviour. These costs can be measured in a similar way as the costs of complying with information requirements. Time spent is all time required for coping with these monitoring activities, which includes time for informal communication and for preparatory meetings. So here some of the salary paid for the persons involved in these activities can be seen as soft transaction costs.

Soft transaction costs concerning the bonding costs of businesses are harder to measure, since these costs have a more fuzzy character than monitoring costs. These costs consist of losses in tacit knowledge or costs or gains of reputation. Losses in tacit knowledge can be measured by measuring the situation before and after the obligation. The difference is the loss in tacit knowledge. Yet valuing such losses hinges very much on subjective judgment. Costs with respect to making, checking and renewing contracts and communication failures are less difficult to quantify. These costs can be measured in the same way as the soft transaction costs with respect to the monitoring costs. The costs of inefficient compliance are hard to measure.

Before, it is indicated how hard it is to measure the societal costs of the residual loss. It seems appropriate to only give a qualitative impression of these costs and include these costs as pm in the estimate of total costs of government regulation.

#### **4. The cost/benefit perspective on government regulation**

The presentations of the previous sections of the transaction costs of government regulation take existing regulations as given. It allows focusing on the costs of regulation, which is in line with political pressure (and pressure from the business sector) to come to a reduction of the administrative burden of government regulation. However, government regulation aims at enhancing social welfare so that the benefits of regulation should exceed the costs. Usually the argument for government regulation is to repair market failure. This is, for instance, the case with environmental regulation, or regulation with respect to safety measures. The benefits of such regulation are not

always directly visible and often relate to long term benefits for society, whereas the direct costs are more tangible, and are borne by specific stakeholders, the norm addressees or – more specific – the regulated businesses. The obligation to comply with environmental standards, for example, does not seem to bring benefits for businesses, but these standards are set by the government in order to prevent negative external effects, which would otherwise be harmful to society, and in an indirect way, also for the business sector. Even the benefits of pure financial regulations are not always directly visible or easy to measure. An example is the obligation for companies to publish an annual report. What are the benefits? In this case such reports reduce the transaction costs for those that want to obtain information on the financial position and strategic behaviour of the companies, for instance when they are involved in business transactions with these companies, or want to buy shares. Then, it is useful when the financial reporting is conducted according to some international standard, which makes the interpretation of the financial position more transparent. But these benefits for society are difficult, if not impossible to quantify.

Yet, in order to come to a judgment on how much government regulation is needed in a specific situation, some kind of cost/benefit analysis should be conducted. More specifically, in such cost/benefit analysis the net benefits of alternative ways of regulation should be judged against the null-alternative of the existing regulation. The extended SCM methodology can be used for the cost part of such cost/benefit analysis, but other formal model-based or informal methods should be developed for calculating the benefits. Note that in the Netherlands, model based calculations made by the CPB Netherlands Bureau for Economic Policy Analysis on the economic effects of policy measures carry a large weight in the process of political decision making (see e.g. Den Butter, 2006). Similarly, model based calculations could be conducted to estimate the benefits of regulation.

In a cost/benefit analysis (Connolly and Munro, 1999), two problems arise. These problems concern (i) the distribution of costs and benefits, and (ii) finding all stakeholders involved. The distribution problem is a core problem of economic welfare and will even occur when all stakeholders benefit from the new regulation (or change in regulation) so that it can be considered a Pareto-improvement. But more often the

distribution problem arises because the benefits for one party go along with costs for another party. Therefore it needs to be considered whether the losses for certain groups of interest are acceptable or not (when the netted sum is positive, an opportunity for a Kaldor-Hicks-improvement exists). The other problem is to identify all stakeholders which are really affected in a negative or positive way by the regulation.

The benefits of government regulation can accrue to the business sector and/or to society as a whole. The next subparagraph discusses the benefits for the business sector and the following paragraph the benefits for the society.

#### **4.1 Benefits of government regulation for businesses**

Government regulation may, in spite of the costs involved, bring benefits to the business sector, as it may enhance positive externalities or reduce negative externalities. An example is the case that information about businesses has to be made openly available. It makes the search costs for business partners decrease and business partners can be trusted more easily (because they have more information about their partners and it can cause a costly loss of reputation when their partners cheat). A similar argument holds for businesses that have to comply with environmental standards. The fact that they are able and willing to comply with these standards, will enhance their reputation with certain customers, while other businesses, which do not comply with the standards, will lose their reputation in society. Because of this a competitive situation rises, which stimulates the businesses to comply with government policy. The stronger government policy is, the stronger the reputation will be when businesses comply with the government policy.

A recent example of government regulation which uses this reputation mechanism is the Authorized Economic Operator (AEO) certificate. Here businesses which fulfil certain standards of reliability are granted the rights of the AEO-certificate so that they are to deal with fewer legal procedures and inspections (European Commission Directorate-General Taxation and Customs Union (2007)). Since September 2007 all businesses (as long as they comply with all guidelines for getting the AEO-certificate) can apply for becoming an Authorized Economic Operator. Starting in July 2009, AEO-businesses will be given even more advantages. They will get additional information on when

inspections will take place and they will be allowed to give less information than other businesses without AEO-certificate. This will make the certificate even more valuable so that the costs of cheating and loss of the certificate are higher. The reputation effect of the AEO-certificate is much related to the number of businesses who are certified, so that it brings about network externalities. Therefore the government should facilitate that businesses obtain such certificates. In this case the EU-governments should facilitate it, as it is essential that the AEO-certificate is accepted EU-wide in order to further increase the value of the AEO-certificate.

#### **4.2 Benefits of government regulation for society**

The most obvious benefits of government regulation are to be found with the society, as the main argument for regulation is to internalize external effects. The example of setting environmental standards in order to prevent environmental damage has already been mentioned. The benefits could be measured by calculating the abatement costs in case of no regulation, or by valuation methods of environmental quality. A problem here is that the benefits of environmental standards will have a world wide influence so that international agreements on specific external effects have to be made.

Another benefit of government regulation for society is that the regulation sets standards for the quality of the products and enhances the knowledge of the quality of the products. Warranty and quality marks protect customers against bad products. Without the government policy this would be less or not possible and businesses would have too much power. Yet such quality standards and information on quality can also be provided by clubs and NGO's like consumer organizations.

#### **4.3 What can the government do to come to 'optimal' regulation?**

When the SCM measures the costs of existing regulation, it provides the government with information on the administrative burden of that regulation<sup>9</sup>. Moreover, when the SCM is extended and reckons with all transaction costs resulting from the principal/agent relationship between the regulator and the business sector, a split-up is made between monitoring costs, bonding costs and residual loss. It allows the government to decide whether to make the implementation of the existing regulation more efficient, e.g. by a decrease of bonding costs. That will reduce the administrative

burden associated with the regulation, but it may, at the same time, involve more monitoring costs, so that the welfare effect of such change in the implementation is ambiguous. So, in fact, the government should consider only changes in the implementation of existing regulation which make the total transaction costs go down. The extended version of the SCM is a useful tool in that decision making process. As is described above, an interesting example of how transaction costs both for the business sector and for the government can be reduced is the provision of the AEO certificate. This certificate uses the reputation mechanism and the trust game as devices to reduce transaction costs of government regulation. Yet, as up to now not many businesses have solicited for, and obtained this AEO-certificate. The benefits of the AEO-certificate (which are the reduction of the delay caused by custom formalities and inspections, the reputation effect and the resulting network externalities) are still rather small. Therefore, the government should make the certificate more attractive in this start-up period. More in general, the reputation mechanism and the costs involved in losing the reputation could be used more often in the implementation of government regulation in order to reduce transaction costs.

The introduction of an AEO-certificate can also be regarded as a change in the regulation itself. In that case the existing regulation is no longer considered as given, but the aim of the government becomes to come to a kind of 'optimal' regulation. Here 'optimal' implies that the benefits minus the costs of the regulation are as high as possible. In a cost/benefit analysis the null-alternative of the existing regulation is to be compared with alternative regulatory measures. For instance, less regulation can be one alternative in the analysis. The (extended) SCM can provide an estimate about how much reduction of transaction costs this alternative with less regulation yields. On the other hand, less regulation will probably also imply a reduction of benefits, for instance because a lack of a safety regulation increases the risk of accidents. Therefore, in order to come to a welfare enhancing revision of existing regulation, the government should carefully ponder the costs and benefits. A further problem is that costs and benefits, and hence the changes in costs and benefits, will affect different stakeholders. Lobbies and discussions about compensation may complicate the decision making process and, in the end, enhance the transaction costs of implementation the new regulation. That's why a careful set-up for the consultation and negotiation about the regulation is needed,

involving all relevant stakeholders. Transaction costs of implementation can be substantially lower when the result of the consultation and negotiation is that stakeholders have an intrinsic motivation to comply with the regulation, than that the regulation can only be followed by extrinsic motivation through strict monitoring and fear of high fines (see also Müller and Nijssen, 2008).

## **5. Conclusion**

Implementation of government regulation brings about transaction costs. These costs are often neglected in the design and discussion of government policy, but can be substantial. As regulation brings about a principal/agent relationship with the regulator as principal and the private economic entities that have to comply with the regulation as agents, three types of transaction costs can be distinguished, namely (i) monitoring costs of the principal (in casu the regulator); (ii) bonding costs by the regulated private economic entities (in casu the business sector) and (iii) the costs of residual loss in case the result of the regulation is not in conformity with the targets set by the regulating authorities. The monitoring and bonding costs both comprise so called ‘hard’ transaction costs, which are direct costs and relatively easy to quantify, and ‘soft’ transaction costs, which are indirect costs and hard, or even impossible, to quantify. The costs of residual loss are welfare losses, and can for that reason also be considered as ‘soft’ transaction costs.

This paper elaborates the distinction between these various types of transaction costs in order to provide a blueprint for their measurement in case of regulation of the business sector. A starting point is the Standard Cost Model (SCM) which measures bonding costs. Part of the bonding costs are the administrative burden of private sector businesses, a topic much under discussion nowadays as the burden is considered too high and hampers the activities of the business sector. There are also experiences with measuring the monitoring costs and bonding costs related to production standards and norms by the implementation of the SCM. The SCM can be instrumental in measuring the success of changes in the implementation of regulation which aims at reducing the administrative burden. However a fuller picture results, when the SCM is extended to include all transaction costs, both of the ‘hard’ and the ‘soft’ types, distinguished in this

paper. This paper contains a number of suggestions on how to include these additional costs in the SCM.

However, government regulation is not solely a nuisance but has a reason. The main argument for government regulation stems from the theory of public sector economics and considers regulation a necessary instrument to internalize external effects. Therefore, in the design of ‘optimal’ regulation, the regulator has to make a cost/benefit analysis, which compares the societal benefits of the regulation with the costs stakeholders have to bear. The ‘optimal’ regulation is that regulation with the highest net benefits, which may differ from the regulation - in extremis: no regulation - with the lowest costs. For such cost/benefit analysis, the costs can be calculated using the extended SCM. Therefore a scope for future research is to elaborate the blueprint of this paper and apply the methodology to various cases. For quantification of the benefits of government regulation a methodology is needed which uses a welfare theoretic framework. Here the (official) guidelines in the Netherlands of how to conduct a cost/benefit analysis for policy proposals can be used as starting point (see Eijgenraam et al., 2000). Such an analysis also provides insight in the welfare effects for the various stakeholders in the regulation. A suggestion that stems from an experiment with AEO-certification is that reputation effects and creating intrinsic motivation to comply with the regulation should be used in order to keep transaction costs down.

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## Endnotes

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<sup>3</sup> In 2008, the Dutch Regulatory Reform Group decided to exclude third party disclosures from the base line measurement of administrative burden in 2007. The reason is that third party disclosures are being considered to be substantive obligations and not information obligations in the sense of monitoring costs. So, the newest version of the SCM is in line again with Mistral® as far as third party disclosures concern.

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<sup>4</sup> It is interesting to realise that the first implementation of Mistral® also considered the related enforcing costs for the government (Bosch et.al. 1993). Besides, there exist several implementations of the SCM in the area of information compliance costs of civilians and government.

<sup>5</sup> In case of event driven IOs, the number of regulated businesses is removed from the formula, since only the total number of events matters

<sup>6</sup> According to the SCM also called marginal costs or incremental costs of regulations. See Figure 1

<sup>7</sup> According to the SCM, also called 'business as usual costs'. See Figure 1

<sup>8</sup> Therefore some special provisions may be needed to cover costs regarding tacit knowledge or reputation of civil servants and business employees

<sup>9</sup> The SCM is also applied to assess the administrative burden of planned or new regulations. In this case, the SCM is part of a RIA (Regulatory Impact Assessment) or BIA (Business Impact Assessment)